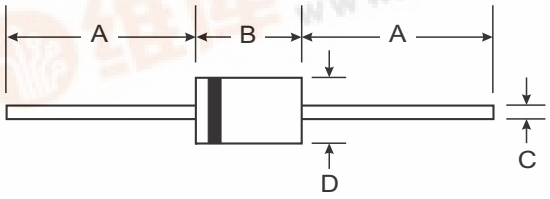
# 1N5400 - 1N5408

## 3.0A RECTIFIER

## Features

- Diffused Junction
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 200A Peak
- Low Reverse Leakage Current
- **Lead Free Finish, RoHS Compliant (Note 3)**




| DO-201AD | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 25.40 | — |
| **B** | 7.20 | 9.50 |
| **C** | 1.20 | 1.30 |
| **D** | 4.80 | 5.30 |
| **All Dimensions in mm** | | |

## Mechanical Data

- Case: DO-201AD
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — Tin. Plated Leads Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: Cathode Band
- Marking: Type Number
- Weight: 1.1 grams (approximate)

## Maximum Ratings and Electrical Characteristics @ $T_A$ = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | 1N 5400 | 1N 5401 | 1N 5402 | 1N 5404 | 1N 5406 | 1N 5407 | 1N 5408 | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current @ $T_A$ = 105°C (Note 1) | $I_O$ | 3.0 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load | $I_{FSM}$ | 200 | | | | | | | A |
| Forward Voltage @ $I_F$ = 3.0A | $V_{FM}$ | 1.0 | | | | | | | V |
| Peak Reverse Current @ $T_A$ = 25°C<br>at Rated DC Blocking Voltage @ $T_A$ = 150°C | $I_{RM}$ | 10<br>100 | | | | | | | μA |
| Typical Total Capacitance (Note 2) | $C_T$ | 50 | | | | 25 | | | pF |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 15 | | | | | | | °C/W |
| Operating and Storage Temperature Range | $T_j$, $T_{STG}$ | -65 to +150 | | | | | | | °C |

Notes:
1. Valid provided that leads are kept at ambient temperature at a distance of 9.5mm from the case.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7.*

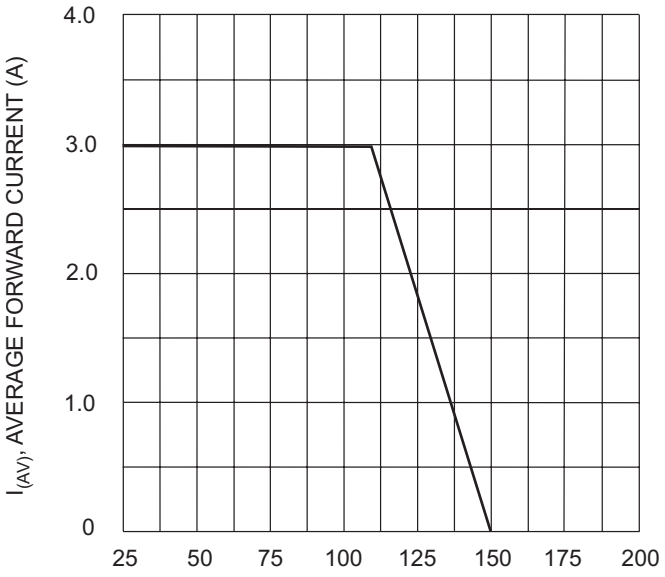



Fig. 1 Forward Current Derating Curve

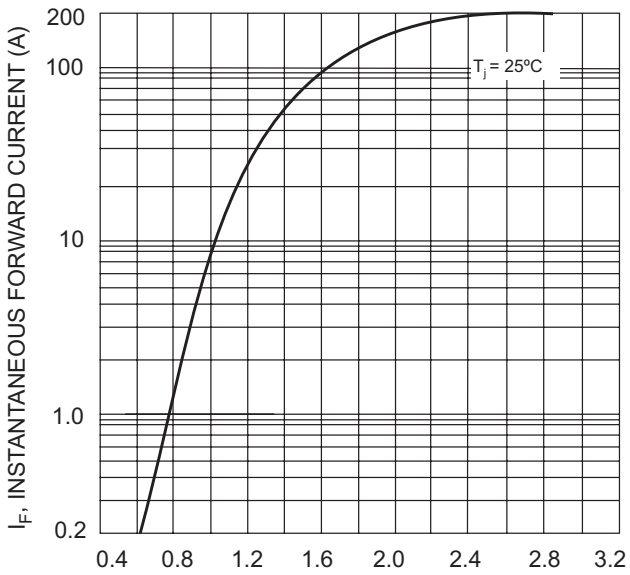



Fig. 2 Typical Forward Characteristics

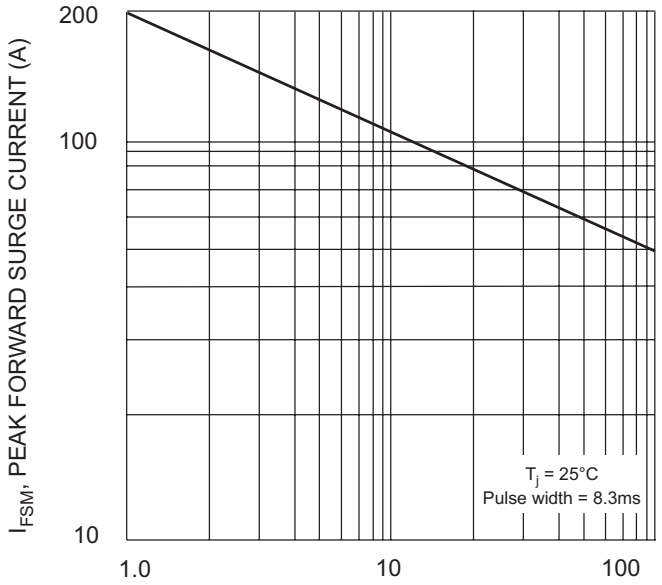



Fig. 3 Maximum Non-Repetitive Surge Current

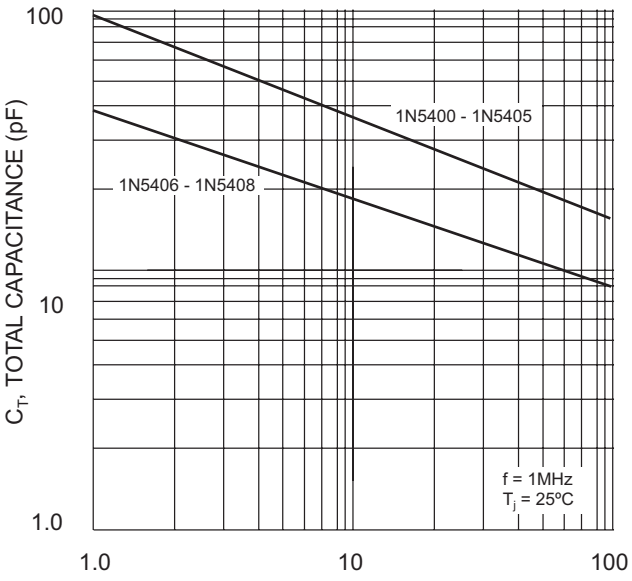



Fig. 4 Typical Total Capacitance

## Ordering Information (Note 4)

| Device | Packaging | Shipping |
|---|---|---|
| 1N5400-B | DO-201AD | 500 Bulk |
| 1N5400-T | DO-201AD | 1.2K/Tape & Reel, 13 inch |
| 1N5401-B | DO-201AD | 500 Bulk |
| 1N5401-T | DO-201AD | 1.2K/Tape & Reel, 13 inch |
| 1N5402-B | DO-201AD | 500 Bulk |
| 1N5402-T | DO-201AD | 1.2K/Tape & Reel, 13 inch |
| 1N5404-B | DO-201AD | 500 Bulk |
| 1N5404-T | DO-201AD | 1.2K/Tape & Reel, 13 inch |
| 1N5406-B | DO-201AD | 500 Bulk |
| 1N5406-T | DO-201AD | 1.2K/Tape & Reel, 13 inch |
| 1N5407-B | DO-201AD | 500 Bulk |
| 1N5407-T | DO-201AD | 1.2K/Tape & Reel, 13 inch |
| 1N5408-B | DO-201AD | 500 Bulk |
| 1N5408-T | DO-201AD | 1.2K/Tape & Reel, 13 inch |

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02008.pdf.